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FCC Part 15B Test Report

Certificate No.		TB171017113
Applicant	:	BIOMEDIS TECHNOLOGIES CO., LIMITED
Equipment Under Test	t (EL	лт)
EUT Name	:	TRINITY
Model No.	11:	T-1
Serial Model No.		N/A
Brand Name	19.1	N/A
Receipt Date		2017-10-23
Test Date		2017-10-23 to 2017-10-27
Issue Date	20	2017-10-27
Standards	: (FCC Part 15:2016 Subpart B
Conclusions		PASS

Test/Witness Engineer

Approved & Authorized



In the configuration tested, the EUT complied with the standards specified above



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0



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Revision History

Report No.	Version	Description	Issued Date
TB-FCC156752	Rev.01	Initial issue of report	2017-10-27
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1. General Information

1.1 Client Information

Applicant	1	BIOMEDIS TECHNOLOGIES CO., LIMITED
Address	:	Unit E223, 3/F Wing Tat Comm, Bldg 97 Bonham Strand East,
10000		Sheung Wan, Hong Kong.
Manufacturer	:	BIOMEDIS TECHNOLOGIES CO., LIMITED
Address	-	Unit E223, 3/F Wing Tat Comm, Bldg 97 Bonham Strand East,
		Sheung Wan, Hong Kong.

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	TRINITY
Model(s)		N/A
Model		
Difference		
Power Supply	:	DC 5V
Equipment		Class A 🖾 Class B
Remark: /		
Class A Equipm	ent	: the Equipment is not intended primarily for use in a residential
environment.		
Class B Equipm	ent	: the Equipment is intended primarily for use in a residential
environment.		



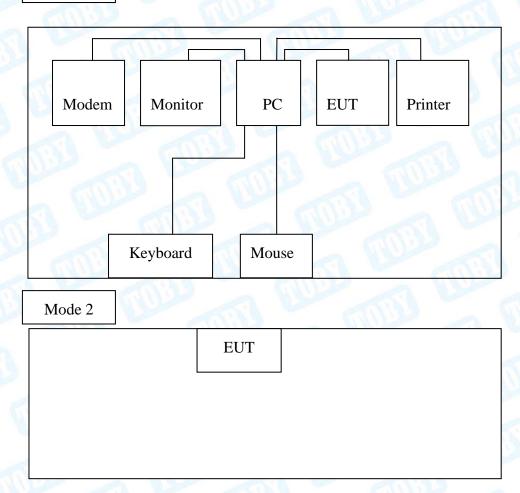
1.3 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

	For Conducted Test
Final Test Mode	Description
Mode 1	N/A
	For Radiated Test
Final Test Mode	Description
Mode 1	Charging Mode
Mode 2	Normal Mode

1.4 Block Diagram Showing The Configuration of System Tested

Mode 1



1.5 Description of Support Units

Name	Model	S/N	Manufacturer	Used "√"
Printer	HP1505n	VNF3G06957	HP	\checkmark
Modem	RX304Xv2		ASUS	\sim
LCD Monitor	E170Sc	60	DELL	\checkmark
PC	OPTIPLEX380		DELL	\checkmark
Keyboard	L100	U01C	DELL	\checkmark
Mouse	M-UARDEL7		DELL	\checkmark

1.6 Test standards

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.107, 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.7 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.



1.8 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test	Parameters	Expanded	Expanded
1631	r al allieter s	Uncertainty (U _{Lab})	Uncertainty (U _{Cispr})
Conducted Emission	Level Accuracy: 9kHz~150kHz 150kHz to 30MHz	\pm 3.42 dB \pm 3.42 dB	\pm 4.0 dB \pm 3.6 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB	±5.2 dB
Radiated Emission	Level Accuracy: Above 1000MHz	\pm 4.20 dB	N/A



2. Test Summary

Test Items	Test Requirement	Test Method	Result
Conducted Emission	FCC Part 15:2016 Subpart B	ANSI C63.4	N/A
Radiated Emission	FCC Part 15:2016 Subpart B	ANSI C63.4	Pass
Note: N/A is an abbreviat	ion for Not Applicable.	COLUMN T	

3. Test Equipment Used

Radiation	Emission Tes	t			
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 20, 2017	Jul. 19, 2018
EMI Test Receiver	Rohde & Schwarz	ESCI	101165	Jul. 20, 2017	Jul. 19, 2018
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.25, 2017	Mar. 24, 2018
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar.25, 2017	Mar. 24, 2018
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.24, 2017	Mar. 23, 2018
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar.24, 2017	Mar. 23, 2018
Pre-amplifier	HP CONST	11909A	185903	Mar.24, 2017	Mar. 23, 2018
Pre-amplifier	HP	8449B	3008A00849	Mar.25, 2017	Mar. 24, 2018
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 24, 2017	Mar. 23, 2018
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Mar. 24, 2017	Mar. 23, 2018
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A



4. Conducted Emission Test

- 4.1 Test Standard and Limit
 - 4.1.1Test Standard FCC Part 15 B: 2016
 - 4.1.2 Test Limit

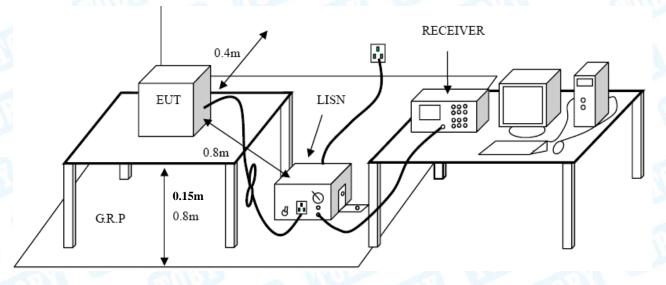
110	Frequency	Maximum RF Line Voltage (dBμV)		
	(MHz)	Quasi-peak Level	Average Level	
1	0.15~0.50	79	66	
2012	0.50~30	73	60	

Conducted Emission Test Limit (Class A)

Conducted Emission Test Limit (Class B)

Frequency	Maximum RF Line Voltage (dBμV)		
(MHz)	Quasi-peak Level	Average Level	
0.15~0.5	66 ~ 56 *	56 ~ 46 *	
0.50~5	56	46	
5~30	60	50	

4.2 Test Setup





4.3 Test Procedure

The EUT was placed 0.15 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

The cables shall be insulated (by up to 15 cm) from the horizontal ground reference plane, and shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

4.4 Test Data

This test is not applicable.



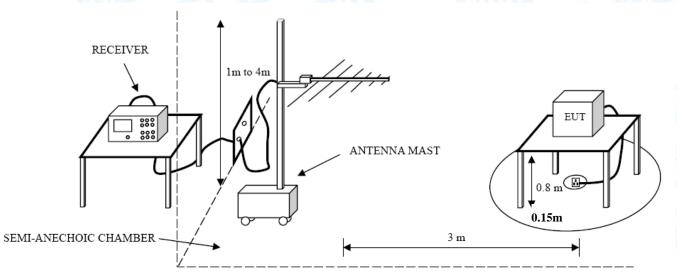
5. Radiated Emission Test

- 5.1 Test Standard and Limit
 - 5.1.1 Test Standard FCC Part 15 B: 2016
 - 5.1.2 Test Limit

Radiated Emission Test	t Limit (Class A)
Frequency	Field Strengths Limits
MHz	dB(μV/m)
30 ~ 88	49.0
88~216	53.5
216~960	56.4
960 ~ 1000	59.5
Radiated Emission Test	t Limit (Class B)
Frequency	Field Strengths Limits
MHz	dB(µV/m)
30 ~ 88	40.0
88~216	43.5
216~960	46.0
	54.0

* The test distance is 3m.

5.2 Test Setup





5.3 Test Procedure

The EUT was placed on the top of a rotating table which is 0.15 meters above the ground. EUT is set 3.0 meters away from the receiving antenna that mounted on a antenna tower. The table was rotated 360 degrees to determine the position of the highest radiation, the antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30MHz to 1000MHz. If the Peak Mode measured value compliance with and lower than quasi-peak mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

5.4 Test Data

Please refer to the Attachment B.



6. Photographs - Constructional Details

Photo 1 Appearance of EUT



Photo 2 Appearance of EUT





Photo 3 Internal of EUT

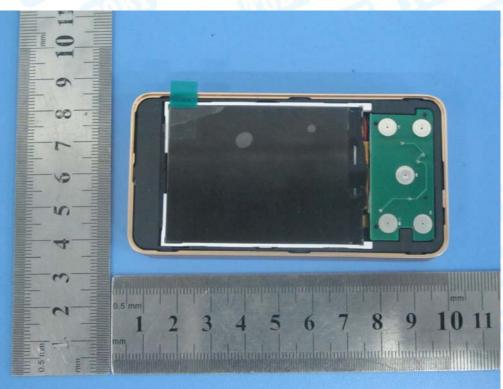


Photo 4 Internal of EUT





Photo 5 Appearance of PCB

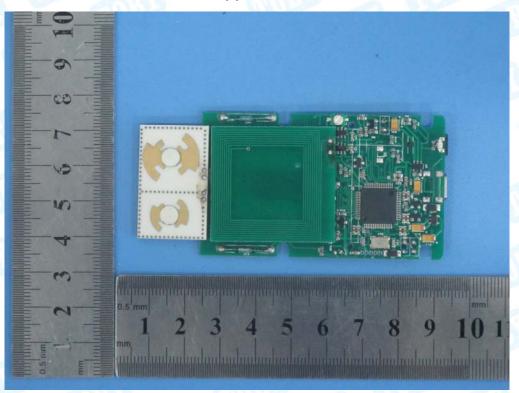
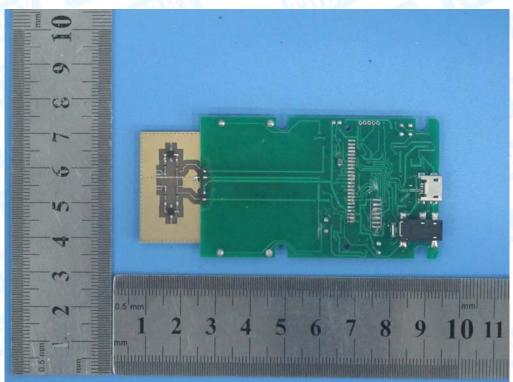


Photo 6 Appearance of PCB





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Photo 7 Appearance of Battery





7. Photographs - Test Setup

Radiated Emission Test Setup---Below 1G



Radiated Emission Test Setup---Below 1G



Attachment B--Radiated Emission Test Data

Tempe	eratu	re:	25	°C	TO A		-5	Relative	e Humi	dity:	55%	6		1
Test V	oltag	e:	DC	5V	1	-	N.S.	1	-				A	1
Ant. Pol.		Ho	Horizontal											
Test N	lode:		Мо	de 1	500		anti	5	-	est				3
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-20	40	50	60	70 8	0	A A A A A A A A A A A A A A A A A A A	(MHz)		300	400	500	600	700	1000
30.000		50	60 Freq.		Reac		(MHz) Correct	t Mea	300 sure- ent	400 Limit		600 OVe		1000
30.000	40	50 50			Read	/el	Corre	ot Mea or mo	sure-		t		ər	1000
30.000	40	50 50 K. F	req.	F	Read Lev	vel uV	Corre Facto	ot Mea or mo dBi	sure- ent	Limi	t //m	Ove	er 3	
30.000 No	40 . Mk	50 50 552	req . MHz	F	Read Lev	vel u∨ 66	Corre Facto dB/m	ot Mea or mo dBi 42	ent uV/m	Limi dBuV	t //m)0	Ove dB	er 3 84	Deteo
30.000 No	40 . Mk	50 50 552 704	req. MHz .8831	F 1 9	Read Lev dBu 51.0	vel u∨ 66 89	Correc Facto dB/m -9.50	ot Mea or mi dBi 42 41	sure- ent uV/m 2.16	Limit dBuV 46.0	t //m)0	Ove dB -3.8	er 3 84 60	Detec
30.000 No	40 . Mk * !	50 50 552 704 721	Freq. MHz 8831	F 1 9	Read Lev dBt 51.0	vel u∨ 66 89 06	Correc Facto dB/m -9.50 -5.49	ot Mea or mi dBi 42 41 41	sure- ent uV/m 2.16 .40	Limit dBuV 46.0	t /m)0)0	Ove dB -3.8	er 3 84 60 94	Detec pea
30.000 No 1 2 3	40 . Mk * !	50 552 704 721 744	Freq. MHz .8831 .2259 .7259	F 1 9 9	Read Lev dBu 51.0 46.0	vel IV 66 89 06 78	Correc Facto dB/m -9.50 -5.49 -6.00	et Mea or m 42 41 41 41	ent uV/m 2.16 .40 .06	Limit dBuV 46.0 46.0	t /m 00 00 00	Ove dB -3.8 -4.6	er 84 60 94	Detec pea pea

Emission Level= Read Level+ Correct Factor

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Temperature	e: 25 °C	2	R	elative Humid	lity: 58	5%	and is
Test Voltage	: DC 5	ν			20		Contraction of the second
Ant. Pol.	Vertie	cal	-01	33	1170	100	-
Test Mode:	Mode	ə 1	No.				1132
Remark:		CUP.		N.O.S.	-		
80.0 dBu∀/m							
30					FCC	15B 3M Radiati Margin -(
20	50 60 70	80	(MHz)	300	400 5	00 600 700	1000.00
20			(MHz)	300 Measure	400 5(00 600 700	1000.00
20		80 Reading Level	(MHz) Correct Factor	Measure-	400 50 Limit	00 600 700 Over	1000.00
20	50 60 70	Reading	Correct	Measure-			
20 30.000 40 No. Mk.	50 60 70 Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Detecto
20 30.000 40 No. Mk. 1 !	50 60 70 Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector peak
20 30.000 40 No. Mk. 1 ! 2 !	50 60 70 Freq. MHz 31.9542	Reading Level dBuV 50.29	Correct Factor dB/m -15.35	Measure- ment dBuV/m 34.94	Limit dBuV/m 40.00	Over dB -5.06	Detector peak peak
20 30.000 40 No. Mk. 1 ! 2 ! 3 * 3	50 60 70 Freq. MHz 31.9542 39.9941	Reading Level dBuV 50.29 55.36	Correct Factor dB/m -15.35 -20.30	Measure- ment dBuV/m 34.94 35.06	Limit dBuV/m 40.00 40.00	Over dB -5.06 -4.94	Detector peak peak peak
20 30.000 40 No. Mk. 1 ! 2 ! 3 * 3 4 ! 5	50 60 70 Freq. MHz 31.9542 39.9941 344.3854	Reading Level dBuV 50.29 55.36 56.15	Correct Factor dB/m -15.35 -20.30 -14.51	Measure- ment dBuV/m 34.94 35.06 41.64	Limit dBuV/m 40.00 40.00 46.00	Over dB -5.06 -4.94 -4.36	Detector peak peak peak peak

Emission Level= Read Level+ Correct Factor

TOBY

Tempo	erature	:	25	°C		R	elative Hui	midity:	55%	
	/oltage:			3.7V	-					CU:
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	IBuV/m									
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^{te} leninine	Marga Jacker vy	mando	Met Mark	Jaam puls	utroloulu					
:0		50	why.	9 80	uswelvele	(MHz)	30	20 400	500 600 700) 1000.01
		50 U	س ^{بر بن} ر به 60 7	/h/h/h /0 80	adaqladu 	(MHz)	30		500 600 700) 1000.00
20) 40			Re	ading	Correct	Measure		500 600 700 Over) 1000.0
20		Fre	eq.	Re	evel	Correct Factor	Measure ment	- Limit	Over	
20 30.000 No) 40). Mk.	Fre MH	eq. Iz	Re Lo	evel iBu∨	Correct Factor dB/m	Measure ment dBuV/m	Limit	Over m dB	Detecto
20 30.000 No) 40). Mk.	Fre MH 280.0	eq. Iz 237	Re La d	evel ^{1Bu∨} 8.08	Correct Factor dB/m -16.71	Measure ment dBuV/m 31.37	Limit dBuV/i 46.00	Over m dB 0 -14.63	Detecto B peak
20 30.000 No 1 2) 40). Mk.	Fre МН 280.0	eq. Iz 237 836	Re Lo d	evel ^{IBuV} 8.08 1.18	Correct Factor dB/m -16.71 -16.37	Measure ment dBuV/m 31.37 34.81	- Limit dBuV/i 46.00	Over m dB 0 -14.63 0 -11.19	Detecto B peak D peak
²⁰ 30.000 No 1 2 3) 40). Mk. 2 2 ! 7	Fre MH 280.0 296.1 785.0	eq. 1z 237 836 934	Re Lu di 4	evel ^{1BuV} 8.08 1.18 6.81	Correct Factor dB/m -16.71 -16.37 -5.52	Measure ment dBuV/m 31.37 34.81 41.29	Limit dBuV/r 46.00 46.00 46.00	Over m dB 0 -14.63 0 -11.19 0 -4.71	Detecto B peak D peak peak
²⁰ 30.000 No 1 2 3 4) 40). Mk. 2 2 ! 7	Fre МН 280.0	eq. 1z 237 836 934	Re Lu di 4	evel ^{IBuV} 8.08 1.18	Correct Factor dB/m -16.71 -16.37	Measure ment dBuV/m 31.37 34.81	- Limit dBuV/i 46.00	Over m dB 0 -14.63 0 -11.19 0 -4.71	Detecto B peak
²⁰ 30.000 No 1 2 3	0 40 0. Mk. 2 2 1 7 * 8	Fre MH 280.0 296.1 785.0	eq. 1z 237 836 934 678	Re Lu d 4 5 4 4	evel ^{1BuV} 8.08 1.18 6.81	Correct Factor dB/m -16.71 -16.37 -5.52	Measure ment dBuV/m 31.37 34.81 41.29	Limit dBuV/r 46.00 46.00 46.00	Over m dB 0 -14.63 0 -11.19 0 -4.71 0 -3.89	Detecto B peak D peak peak

Emission Level= Read Level+ Correct Factor

TOBY

empe	erature:	25 ℃		Re	elative Humidi	ity: 55	5%	ALL I
Test V	/oltage:	DC 3.	7V	D	A TUP			C.
Ant. P	Pol.	Vertica	al	- OB		12	100	-
lest N	lode:	Mode	1	1 Sec				1132
Remai	rk:		4025		B.O.C.	-		
80.0 df	BuV/m							
30				1 ×		FCC	15B 3M Radiati Margin -1	
20	more but when		plander de la la					
	- And Andrews		80	(MH2)	300	400 50	DO 600 700	
20	0 40 50	60 70	Reading Level	(MHz) Correct Factor	Measure-	400 50 Limit	00 600 700 Over	1000.00
20	0 40 50 D. Mk.		Reading	Correct	Measure- ment			1000.00
20	2 40 50	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
30.000 No	2 40 50 D. Mk. 1 143	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detecto
20 30.000 No	5. Mk. 1 143	Freq. MHz 3.8293	Reading Level dBuV 56.14	Correct Factor dB/m -21.23	Measure- ment dBuV/m 34.91	Limit dBuV/m 43.50	Over dB -8.59	Detecto peak
20 30.000 No 1 2	b. Mk. 1 143 312 593	Freq. MHz 3.8293 2.1792	Reading Level dBuV 56.14 50.25	Correct Factor dB/m -21.23 -15.83	Measure- ment dBuV/m 34.91 34.42	Limit dBuV/m 43.50 46.00	Over dB -8.59 -11.58	Detecto peak peak peak
20 30.000 No 1 2 3	b. Mk. 1 143 312 593 ! 640	Freq. MHz 3.8293 2.1792 3.0497	Reading Level dBuV 56.14 50.25 47.96	Correct Factor dB/m -21.23 -15.83 -8.74	Measure- ment dBuV/m 34.91 34.42 39.22	Limit dBuV/m 43.50 46.00 46.00	Over dB -8.59 -11.58 -6.78 -5.15	Detecto peak peak

Emission Level= Read Level+ Correct Factor

-----END OF REPORT-----